

CLAIMS:

We claim:

- 5 1. A system for determining a temperature of exhaust gases from an engine, comprising:
- an exhaust gas sensor having an electric heating coil, said sensor communicating with the exhaust gases;
- an electrical circuit for generating a signal
- 10 indicative of the resistance of said heating coil when said coil is not energized; and,
- a controller receiving said signal and calculating said temperature of said exhaust gases based on said signal.
- 15 2. The system of claim 1 wherein said electrical circuit comprises a Wheatstone bridge circuit operatively coupled to said exhaust gas sensor.
3. A method for determining a temperature of exhaust gases
- 20 from an engine, comprising:
- generating a signal indicative of a resistance of a heating coil in an exhaust gas sensor when said coil is not energized; and,
- calculating a temperature of the exhaust gases based on
- 25 said signal.

4. A system for determining a temperature difference of exhaust gases from an engine, the engine being coupled to an emission catalyst, the system comprising:

5 a first exhaust gas sensor having a first electric heating coil, said first sensor communicating with exhaust gases upstream of the catalyst;

a second exhaust gas sensor having a second electric heating coil, said second sensor communicating exhaust gases

10 downstream of the catalyst;

a first electrical circuit generating a first signal indicative of a resistance of said first heating coil when said first coil is not energized;

a second electrical circuit generating a second signal

15 indicative of the resistance of said second heating coil when said second coil is not energized; and,

a controller calculating a temperature difference between exhaust gases communicating with said first and second exhaust gas sensors based on said first and second

20 signals.

5. A system for determining a temperature difference of exhaust gases from an engine, the engine being coupled to an emission catalyst, the system comprising:

5 a first exhaust gas sensor having a first electric heating coil, said first sensor communicating with exhaust gases upstream of the catalyst;

a second exhaust gas sensor having a second electric heating coil, said second sensor communicating exhaust gases downstream of the catalyst;

10 an electrical circuit generating a first signal based on both a resistance of said first sensor heating coil and a resistance of said second sensor heating coil; and

a controller calculating a temperature difference between exhaust gases communicating with said first and
15 second exhaust gas sensors based on said first signal.